

Response Under 37 C.F.R. § 1.116  
Serial No. 10/083,688  
Sughrue Ref: Q68731

filed on December 17, 2002, which included the Proposed Drawing Corrections, and to indicate that corrected drawings are not required in reply to this Office Action.

## **II. Claim Rejections Based On Prior Art Grounds**

### **A. Claims 1, 2, 6, 7, 11, 12, 16, and 17**

The Examiner rejects claims 1, 2, 6, 7, 11, 12, 16, and 17 under 35 U.S.C. § 103(a) over Urushibata '699 in view of Yamamoto.

In the present Office Action, the Examiner alleges that Urushibata '699 (e.g., Figures 1 and 5) disclose all of the features of independent claims 1 and 11, except for each pair of piercing portions piercing the plurality of conductors at one time and being bent back. However, the Examiner asserts that Yamamoto makes up the deficiencies of Urushibata.

In particular, the Examiner asserts that Figures 1 and 8 of Yamamoto disclose a multicircuit cable connector having a flexible cable 1 with a plurality of conductive strips 4. Further, the Examiner alleges that Yamamoto discloses a U-shaped clip 11 having sides 13 which are crimped through the conductive strips and bent back as allegedly shown in Figure 8. Thus, the Examiner considers that it would have been obvious to modify Urushibata's connector with the flexible cable and U-shaped clip taught by Yamamoto in order to provide the electrical connection between the terminal and the flexible cable. For at least the following reasons, Applicant respectfully traverses this rejection.

Urushibata '699 discloses a connector for connecting wires 6 to a flat circuit member 5 having a plurality of conductors 7 in which the connector includes a plurality of electrical connection terminals 10, each including at its rear end portion a wire connection portion 1 to

which the wire 6 is connectable. Additionally, Urushibata '699 discloses an insulating housing 12 for receiving and holding the plurality of electrical connection terminals 10 at an interval corresponding to an arrangement pitch of the plurality of conductors 7 of the flat circuit member 5. However, Urushibata '699 does not disclose a pair of piercing portions at its front end portion to pierce the conductor 7 of the flat circuit member 5, wherein each pair of piercing portions pierces the plurality of conductors at one time and is bent back, respectively, as recited in claim 1. Instead, Urushibata '699 discloses that the crimpable portion 3 is pierced through only the insulator of the flat circuit member 5 and then bent to crimp the spring portion 2 to the spring portion 2', thereby sandwiching the flat circuit member 5 between the spring portions 2 and 2' (see, e.g., col. 1, lines 49-59; col. 3, lines 35-47). Next, the projection portion 4 is spot welded to the rectangular conductor 7 to connect the terminal 10 to the conductor 7 (see, e.g., col. 1, lines 60-63; col. 3, lines 47-54).

As set forth above, the Examiner alleges that Yamamoto makes up for the deficiencies of Urushibata '699. Applicant respectfully submits that the Examiner has mischaracterized the Yamamoto reference. For example, with reference to Figure 8, the Examiner alleges that Yamamoto discloses a U-shaped clip 11 having sides 13 which *are crimped through the conductive strips* and bent back. Because Figure 8 is a cross-section of the multicircuit cable connector of Yamamoto, Figure 8 seems to show the sides 13 of the U-shaped clip piercing through the conductive strips 4. However, a closer review of the Yamamoto reference as a whole seems to contradict the Examiner's position. For example, Yamamoto specifically states:

Response Under 37 C.F.R. § 1.116  
Serial No. 10/083,688  
Sughrue Ref: Q68731

Once matching connector 5 is in place, bottom 12 of clip 11 is pressed against the surface of, for example strip 4(b). Sides 13 then project (or are forced) through layer 2 and substrate 6 to project upwardly on either side of terminal 9(b). Thereafter, edges 14 are bent inwardly to make contact with terminal 9(b) and complete the connecting process. This is shown clearly in FIG. 8. (see col. 4, lines 17-24; emphasis added).

Thus, Yamamoto seems to disclose that the sides 13 are forced through (i.e., pierce) the insulation layer 2 and the insulating substrate 6, *not* the conductive strips 4, interconnecting portions 8, or the terminals 9. That is, the bottom 12 of the clip 11 merely is *pressed against* the surface of the conductor strip 4(b), *not* pierced through the conductor strip 4(b). Additionally, the sides 13 project upwardly *on either side* of terminal 9(b) and also do not pierce through the conductive strip 4 or the terminal 9(b). Figure 1 seems to support this position, since it appears to show that the sides 13 of the clip 11 project upwardly on either side of both the conductor strip 4 and the terminal 9 (i.e., the sides 13 do not pierce through the conductor strip 4 or the terminal 9) and are bent over the terminal 9 to connect the sharpened edges 14 of the clip 11 to the terminal 9. Moreover, at col. 2, lines 47-54, Yamamoto describes the process of connecting the multicircuit and the second circuit as:

The bottom of each of the clips is pressed against one of the longitudinal conductors or strips making up the multicircuit. The upstanding sides pass through the insulation layer and are bent inwardly so as to contact an appropriate terminal which is attached to the interconnecting portions of the second circuit. (emphasis added).

Response Under 37 C.F.R. § 1.116  
Serial No. 10/083,688  
Sughrue Ref: Q68731

Thus, Applicant submits that Yamamoto discloses that the bottom 12 of the clip 11 merely is *pressed against* the conductor strip 4, not pierced through the conductor strip 4, as alleged by the Examiner.

Modifying Urushibata '699 to include the clip 11 of Yamamoto merely would result in an apparatus in which the crimpable portions 3 project upwardly along the sides of the conductor 7, pass through the insulation layer of the circuit member 5, and are bent inwardly so as to penetrate the insulator layer and merely contact or press against the conductor 7 of the circuit member 5. That is, the combination of Urushibata '699 and Yamamoto still would not disclose or suggest at least "a pair of piercing portions at its front end portion to pierce the conductor of the flat circuit member," "wherein each pair of piercing portions pierces the plurality of conductors at one time and is bent back, respectively," as recited in claim 1 (emphasis added).

With respect to claims 2, 7, and 12, Applicant submits that these claims are patentable over any combination of Urushibata '699 and Yamamoto at least by virtue of their dependencies from claims 1 and 11, respectively.

Additionally, with respect to claims 6 and 16, Applicant submits that these claims are patentable at least by virtue of their dependencies from claims 1 and 11 and are separately and independently patentable for at least the following reasons. In the present Office Action, the Examiner alleges that Urushibata (in particular Figure 5) discloses each pair of piercing portions is formed at a flat surface portion and forwardly from the insulating housing when the plurality of electrical terminals are received in the insulating housing and projects substantially upright (since the Applicant does not disclose each pair of piercing portions projects upright respect to

what direction). Applicant respectfully disagrees. The spacer 11 shown in Figure 5 is not comparable to the claimed insulator housing; but instead, the spacer 11 is disposed inside the insulator housing 12 and provides the appropriate spacing for the terminals 10. As such, the piercing portions 3 of Urushibata '699 do not project "forwardly from the insulating housing when the plurality of electrical connection terminals are received in the insulating housing," as recited in claims 6 and 16, respectively. Thus, Applicant submits that any combination of Urushibata '699 and Yamamoto would not disclose or suggest all of the recitations of claims 6 and 16. In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

**B. Claims 3-5, 8-19, and 13-15**

Claims 3-5, 8-19, and 13-15 are rejected under 35 U.S.C. § 103(a) as being obvious over Urushibata '699 in view of Urushibata '650. For at least the following reasons, Applicant traverses this rejection.

With respect to claims 3, 8, 11, the Examiner alleges that Urushibata '699, in particular Figure 1, discloses the instant claimed invention as set forth with respect to claims 1 and 11, except for the insulating housing including the housing body with a plurality of terminal receiving grooves and a housing cover (see Office Action, page 3, numbered paragraph 3). However, as set forth above, the Examiner also acknowledges that Urushibata '699 does not disclose that each pair of piercing portions pierces the plurality of conductors at one time and is bent back (see Office Action, page 2, numbered paragraph 2), as recited in independent claim 1 (from which claims 3 and 8 depend) and independent claim 11. While the Examiner asserts that

Response Under 37 C.F.R. § 1.116  
Serial No. 10/083,688  
Sughrue Ref: Q68731

Urushibata '650 makes up for the deficiencies of the "housing", the Examiner does not mention the manner in which Urushibata '650 makes up for the previously acknowledged deficiency of Urushibata '699, particularly, the "piercing portions" for piercing the conductors.

Additionally, it appears that the Examiner is mischaracterizing Urushibata '650. For example, Urushibata '650 does not disclose the claimed "retaining projection" to position the electrical connection terminal "in an axial direction of the electrical connection terminal" as recited in claims 4, 5, 9, 10, 14, and 15. Instead, the alleged retaining projection "A" (as shown in the Examiner's attachment to the Office Action) at best retains the terminal in a direction orthogonal to the axial direction.

Therefore, Applicant submits that the Examiner has not established that the combination of Urushibata '699 and Urushibata '650 disclose or suggest all of the recitations of at least independent claims 1 and 11, particularly, the piercing portions for piercing the conductors.

Similarly, with respect to claims 4, 5, 9, 10, 14, and 15, the Examiner has not established, or mentioned, the manner in which the combination of Urushibata '699 and Urushibata '650 discloses or suggests at least the claimed "pair of piercing portions to pierce the conductor of the flat circuit member" as recited in independent claims 1 and 11 (from which claims 4, 5, 9, 10, 14, and 15 depend). Thus, Applicant submits that the Examiner has not established a *prima facie* case of obviousness with respect to these claims.


Response Under 37 C.F.R. § 1.116  
Serial No. 10/083,688  
Sughrue Ref: Q68731

### III. Conclusion

In view of the foregoing, it is respectfully submitted that all claims pending are in condition for allowance. It is respectfully requested that the application be passed to issuance at the earliest possible convenience.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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